

Bull. Grad. School Educ. Hiroshima Univ., Part I , No. 68, 2019, 99–104

Assessing Student Interest and Prior Knowledge in Global Education

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(Received, October 3, 2019)

Abstract: In the period of “Super Global University Initiative” in Japan, many universities have made global education part of their core mission. The objectives of most of these courses and programs are not student-centered, however, resulting to decrease the possibilities for students’ successful engagement in the course content. For this purpose, this paper examines the prior knowledge and learning interest of undergraduate students participating in a course on a comparative study of education in Japan and education in several countries around the world. The KWL strategy was employed to gather the needed information. The result illustrates the aspects of global education the participants were interested in and the relationship between previous knowledge and what they desired to learn. Furthermore, the result suggested several pedagogical implications with respect to developing programs for global education.

Key words: global education, prior knowledge, KWL strategy, student interest

1. Introduction

With the introduction of the “Super Global University Initiative” by the Japanese Ministry of Education, Culture, Science, and Technology (MEXT), universities all across Japan have been pushed to develop plans and create new curricula to show how their university has “globalized” itself. Although this focus on globalization and intercultural understanding and competence is present in other countries as well (i.e. Wang & Kulich, 2015), the MEXT initiative has served to motivate universities in Japan to embrace the goal of globalization. One way that these universities are doing this is through the creation of courses and programs focusing on global certification for their students, such as programs in which students will graduate with international baccalaureate (IB) certification. One difficult aspect of the creation of these programs, however, is the alignment of the goals of the university and those of the students taking these courses, as any potential incongruence has been shown to have a negative effect on student interest and motivation to learn about the topic (Spera & Wentzel, 2003). It is the development of these global programs and the alignment of university and student goals that led one previous study to “look at instructional methods that would assist in increasing and maintaining student interest in global education” (Walter, 2017, p. 103). In the following review, studies focused on the relationship between student interest and course performance will be discussed before explaining how this previous study had influenced the current study.

2. Student Interest and Previous Study

Student interest and motivation in their studies has long been classified as a key attribute for

the development of student engagement and learning (Bruner, 1977). Further, it has been shown in research that increasing student interest in a subject can have a direct effect on learner empowerment (Weber, Martin, & Cayanus, 2005; Weber, 2004), student motivation, affective learning, and attention (Mazer, 2017; Mazer, 2013; Renninger, Hidi, & Krapp, 1992; Bruner, 1977), and serves to potentially guide students to use deeper comprehension processes (Renninger, 1992). Another benefit for focusing on student interest has been shown by Mazer (2013), in which it was found that increasing student interest in a course has a positive effect on student behavior, as they tend to “listen attentively, verbally contribute during discussions, take notes, and ask questions of instructors” (p. 89). It is these types of effects on student learning that show the importance of taking student interest into consideration when designing a new course or program, such as the global programs being created across Japan.

As mentioned above, the current study was developed to provide further data for a study that was previously performed on connecting instructional methods to student interest for the development of a course on global education (Walter, 2017). In this study, data was collected from participants in the form of questions they generated in groups with the purpose of learning more about how education is handled in countries outside their own native country, Japan. The study itself had two main goals: “to generate a list of questions that may be used to guide the development of a course on global education and to classify these questions to see if there are any common trends apparent in student interest on the topic of global education” (Walter, 2017, p. 107). Participant questions were generated and sorted into the following categories: Impressions of Japanese Education, English Instruction, Primary/Secondary Education, Student Life, Statistics, General Administration, and Others. However, one limitation of this study was a lack of data taken through convenience sampling. Overall there were only 111 questions used to create these categories. It was suggested that more data be collected to support these categories. As will be described below, the current study was created based on the recommendations for future research to use a KWL chart to show “which aspects of global education interest the participants the most” and “create further data on the relationship between interest, prior knowledge, and learning” (Walter, 2017, p. 107).

3. Research Question

As the current study aims to further explore and expand upon the data presented in the previous research mentioned above, the goals and research question are very similar as to what was in the first study. Specifically, this research aimed to expand upon two eventual goals: first, to further expand a previously created list of questions that may be used to direct the development of a course on global education and, second, for the purpose of discovering common trends in student interest in global education, to support and improve upon the classification of the questions developed in the original study and to better relate these to student interest, prior knowledge, and learning. As such the original research question was adjusted as so:

When participants in a course on global education are given the opportunity to present their personal interests in global education, what themes are revealed and how do these themes line up with their prior knowledge?

4. Methods

A mixed methods research design was applied in this Correlational study to investigate students' interest and prior knowledge in global education. This approach was used in this study to gain an understanding of the underlying interests, opinions, and prior knowledge of students. A KWL chart

was administered to collect data from students of a 15-week course on comparative studies of education in Japan and education in various countries around the world. Within the contents of this course, guest speakers from the United States, China, Kenya, Nigeria, Norway, Iran, and India were invited to give a presentation on their experiences with education from their countries which were then followed up with a question and answer session in which participants could get further clarification on any part of the presentation. Cronbach's alpha analysis was used to examine the reliability of the data and correlation analysis of a two-tailed alpha level of 0.05 was also performed.

4.1. Instruments and Procedure

The KWL chart strategy was used as the research instrument to gather data for this study. A KWL chart is made up of three sections which are subsequently labeled as K: "What I Know," W: "What I Want to Know," and L: "What I Learned." The KWL strategy (steps) proposed by Ogle (1986) was used in this course: (1) Contents and syllabus of the course was explained to the students at the beginning; (2) The KWL chart was introduced to the students and they looked through the chart; (3) Students were asked to record words, phrases, and terms of their prior knowledge on global education into the "What I Want to Know" section; (4) Students were made to share their ideas with their classmates after they had done recording; (5) Students were asked to record questions on their interest on the content of the course in the "What I want to Know" section of the chart; (6) Step 4 was repeated after the students had created as many questions as they could; (7) At the end of the course, students were asked to fill in the "What I Learned" section of the chart. The KWL chart was then examined on how students' prior knowledge and interest are linked to the course contents (global education) and whether created questions were answered by visiting guess speakers.

4.2. Participants

This study's participants were undergraduate students enrolled in a university in Japan. The KWL chart was administered to the participants in Fall 2016 and 2017, and there were 73 participants in total who registered for the courses. Out of the 73 participants, 30 (41%) were male and 243 (59%) were female. The response rate for the study was 68% ($n = 50$). The participants were either in the second semester of either their second ($n = 63$), third ($n = 7$), or fourth year ($n = 3$) of schooling in their respective undergraduate programs. While all students came from the School of Education, their respective majors varied across different fields (i.e. elementary education, music education, English education). Student enrollment in the course and special degree program itself was completely voluntary.

5. Results and Discussion

In order to address the specified purpose of this study, the developed goals were twofold. First, it was to discover what developing themes were revealed when participants were allowed the chance to formulate their questions based on their interest in global education. Second, it was to examine how these themes lined up with the participants' prior knowledge. The KWL strategy was employed to gather the information used in this study.

The KWL chart was used during the introductory section of the course to help students activate their prior knowledge of and learning interest in education systems around the world. The chart was administered at the beginning of the course, in which students first wrote what they knew (K) about education in other parts of the world, followed by what they wanted to know (W) about global education, and finally at the end of the course they wrote down what they learned (L) through the presentations of the guest speakers in accordance with their questions.

An analysis of the KWL charts shows the aspects of global education the participants were interested in and the relationship between prior knowledge and what they wanted to learn. Consequently, a total of 270 items (questions) including 177 from K and 191 from W were reviewed, checked and clarified for duplication. In addition, the Cronbach's alpha method was used to check the internal reliability of these items and they were found to be 0.852 based on 50 responses.

The W: "What I Want to Know" section (W column - list of questions) of the KWL chart was analyzed in order to answer the first research question. "What emerging themes are revealed when participants are provided the chance to formulate questions based on their interest in global education?" After examining the questions for duplication and coherence, a final list of 191 questions was generated. An examination of the formulated questions led to the grouping of the questions into themes representing various facets of education. These themes were grouped into eight categories: Perception of Japanese Education (14%), Language of Instruction (12%), Pre- to Secondary School (9%), Student Life (8%), Statistics (13%), General Administration (16%), Education Systems (18%), and Others (10%). It should be noted that these themes were adapted from Walter's (2017) study (similar results), and the characteristics of these themes are shown in Figure 1. Despite the notable similarity to Walter's (2017) study, this result clearly indicates the students' interest in global education. For further clarification and the operation definitions of the above-mentioned themes, see Walter's (2017) study.

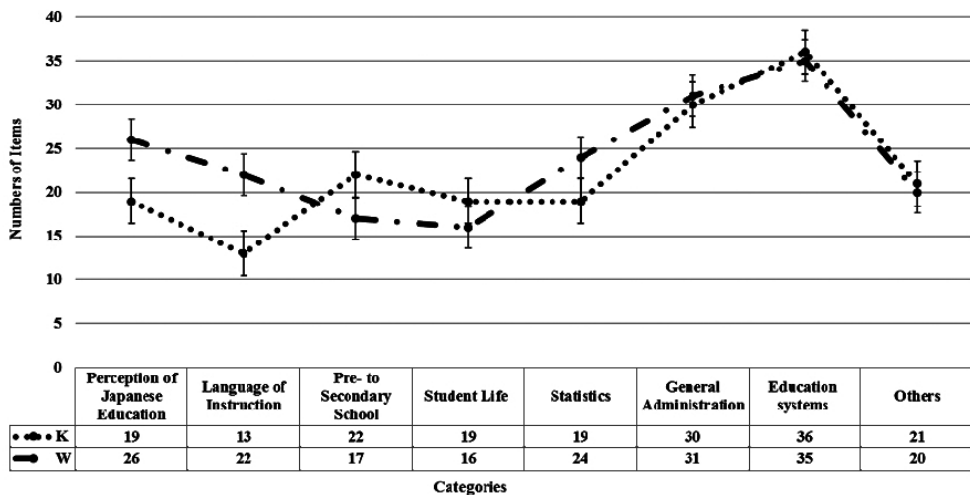


Figure 1 KWL links between prior knowledge and student interest

The second research question was answered using the K: "What I Know" section of the KWL chart (K column). "How do these themes line up with students' or participants' prior knowledge?" As Figure 1 shows, the KWL chart reflects the connection or link between prior knowledge and what students were interested to learn (wanted to know) in the form of new information. The Pearson's correlation coefficient analysis carried out shows the same relationship with a high positive correlation coefficient of 0.745 (Correlation is significant at the 0.05 level of the 2-tailed test). In essence, as one's prior knowledge expands, their appetite for learning increases.

As the results above show, the KWL chart represents an effective approach for creating prior and background knowledge and can also be used to activate the relationship between old and new knowledge. Therefore, the KWL strategy increases the connection between learning new topics with previous information by expanding students' awareness of their prior knowledge and their ability to generate questions.

6. Conclusion and Implications of the Study

In an era of globalization of academic institutions in Japan, many universities are experiencing mounting pressure on designing new global education centered courses and programs. The intentions of these academic programs do not consistently link with the students' objective at these universities, resulting to decrease the possibilities for students' successful engagement in the course content. The purpose of this study was to examine the prior knowledge and learning interest of undergraduate students participating in a course on a comparative study of education in Japan and education in several countries around the world. As pointed out by Walter (2017), global education programs within universities can be accomplished by allowing students to enthusiastically participate in the development of their own knowledge by formulating questions that focus on their personal interests leading to productivity in teaching and research. The response from the participants in this study essentially confirms this fact.

The KWL strategy used in this study allowed students to enthusiastically participate in the development of their knowledge by generating questions that focus on their interests. These questions were then grouped into eight key themes, namely: Perception of Japanese Education, Language of Instruction, Pre- to Secondary School, Student Life, Statistics, General Administration, Education Systems, and Others. The analysis of these themes revealed a more passionate interest in questions of statistical data and general administration and systems of education in other countries. This could be due to the fact that all participants were studying in the School of Education. As such, this study confirmed the findings of Walter's (2017) research regarding the learning interests of undergraduate students participating in a course on global education. The themes of questions developed in this study could serve as a starting point for further improvement of global curricula on global education in Japanese universities.

The results of this study suggest several pedagogical implications with respect to developing programs for global education. The result from the KWL highlights two principles with respect to the subject matter. First, students' previous or background knowledge is significant to understanding unknown content or topics. Secondly, the course contents should be student-centered. Put differently, students should be allowed to explore their critical thinking and problem-solving abilities. The pedagogical emphasis should be placed on the aspect of learning through activation of prior knowledge (or background knowledge in some cases). On this note, the KWL approach helped to engage students in the learning process by activating their prior knowledge and having them generate questions based on their interests in global education.

7. Limitations and Future Research

This study focused on the prior knowledge and learning interests of undergraduate students participating in a course on a comparative study of education in Japan and education in several countries around the world. It is to be noted that only the K: "What I Know" and W: "What I Want to Know" sections have been analyzed for this study. One suggestion for future research would involve an analysis of the L: "What I Learned" section to see the effectiveness of a course designed around what students have designated as their interests. Also, as mentioned above, this study excluded undergraduate students from other fields and did not search for participants from outside the University. As such, the findings are limited due to the sample size of the study and cannot be generalized. Future research could branch out to other universities in the nation to gather a more inclusive analysis of student interest on the topic from other fields.

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